



# Biological characteristics of ethnobotanical study of medicinal plants used by Donggo Ele tribe in Wawo District, West Nusa Tenggara Province

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## Correspondence

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**Ethnobotany Research and Applications 33:39 (2026)** - <http://dx.doi.org/10.32859/era.33.39.1-22>

Manuscript received: 09/01/2026 – Revised manuscript received: 14/03/2026 - Published: 16/03/2026

## Research

### Abstract

**Background:** Medicinal plants represent invaluable natural resources sustained through indigenous traditional knowledge systems. This ethnobotanical investigation examined medicinal plant knowledge of the Donggo Ele tribe in Wawo District, Bima Regency, West Nusa Tenggara Province, Indonesia.

**Methods:** Data collection employed semi-structured interviews with 70 informants including traditional healers (Sando) and village elders, selected through purposive and snowball sampling. Plant specimens were identified through field surveys and taxonomic references. Quantitative ethnobotanical indices including Relative Frequency of Citation (RFC), Species Use Value (SUV), Family Importance Value (FIV), Fidelity Level (FL), and Plant Part Value (PPV) were calculated.

**Results:** The study documented 171 medicinal plant species from 62 families utilized for treating 67 different ailments. *Curcuma longa* L. was the most frequently cited species (RFC 69.048%), while Zingiberaceae demonstrated the highest Family Importance Value (90.476%). *Abrus precatorius* and *Gomphrena globosa* exhibited the highest Species Use Values (4.50 and 4.00, respectively). *Syzygium aqueum* showed perfect Fidelity Level (100%) for treating gastrointestinal disorders. Leaves constituted the most utilized plant parts (PPV 38.082%), with preparation methods primarily involving pounding and boiling (34%), and oral administration being preferred (58.3%).

**Conclusions:** The Donggo Ele community maintains extensive traditional medicinal plant knowledge actively integrated into healthcare practices. However, this knowledge faces threats from modernization and disrupted intergenerational transmission. Comprehensive documentation efforts, community-based conservation initiatives, and sustainable utilization strategies are essential for preserving this biocultural heritage while exploring potential contributions to pharmaceutical research.

**Keywords:** Ethnobotany; Traditional medicine, Quantitative indices; Biocultural conservation, Donggo Ele

## Background

Indonesia is an archipelagic country with a tropical climate, located between two continents, Asia and Australia, and two oceans, Pacific and Indian Oceans, with positions 6°N–11°S and 95°E–141°E. This position causes Indonesia to become the third richest country globally for biodiversity after Brazil and is known as a “mega biodiversity” country (Nugroho *et al.* 2022). Recognized as a megadiversity hotspot, Indonesia harbors approximately 15.5% of the world’s flora, including 1,500 algae species, 80,000 spore plants, 595 lichen species, 2,197 ferns, and 30,000–40,000 seed plants (Widyatmoko 2018). Notably, experts posit that Indonesia’s total biodiversity, including marine and terrestrial ecosystems, may surpass Brazil’s if fully documented. This biological wealth, coupled with Indonesia’s cultural plurality with 1,300 ethnic groups (Sidi 2020), has fostered a rich tapestry of ethnobotanical knowledge, particularly in plant use for economic, spiritual, and medicinal purposes (Kurniadi 2024).

The archipelago encompasses approximately 1,300 distinct ethnic groups distributed across its 17,000 islands (Neelakantan 2010). This cultural mosaic has generated diverse ethnobotanical knowledge systems, characterized by unique applications of plant resources for economic, spiritual, medicinal, cosmetic, and cultural purposes (Mukti 2024). These biocultural systems represent invaluable repositories of traditional ecological knowledge developed through generations of human-environment interactions. The use of plants by certain ethnic communities is known as ethnobotany. Ethnobotany is a science that studies the relationship between humans and plants. Ethnobotany explains the knowledge of traditional communities on the use of plants to support their lives which has a link between culture and plant uses, how plants are used, cared for, and judged to provide benefits to humans (Zerbe 2022).

Traditional medicinal plant knowledge represents a sophisticated form of local ecological wisdom developed through intergenerational observation and experimentation (Ouma 2022). These knowledge systems offer potential alternatives to synthetic pharmaceuticals while embodying cultural heritage values. However, throughout Indonesia and globally, traditional ethnobotanical knowledge faces accelerating threats from modernization processes, changing socioeconomic patterns, and intergenerational knowledge transmission disruptions.

Contemporary socioeconomic transformations, technological advancement, and educational shifts have contributed to changing perceptions among younger generations regarding traditional practices. Increasingly, ancestral ecological knowledge is misconstrued as indicative of underdevelopment, while synthetic pharmaceuticals are preferentially adopted for their perceived practicality and modernity (Jadid *et al.* 2020). This phenomenon threatens the perpetuation of invaluable ethnobotanical knowledge systems and underscores the urgency of comprehensive documentation initiatives that integrate principles of environmental sustainability with natural resource management.

The Donggo Ele tribe of Wawo District in Bima Regency, West Nusa Tenggara Province, represents a community with significant yet understudied ethnobotanical knowledge (Syamsuddin *et al.* 2021). Geographically positioned in eastern Donggo, this community inhabits a mountainous region characterized by fertile agricultural lands and favorable conditions for medicinal plant cultivation. The district encompasses nine villages, Ntori, North Maria, Maria, Pesa, Kambilo, Riamau, Raba, Kombo, and Tarlawi, with defined administrative boundaries adjoining Sape District (east), Bima City (west), Wera District (north), and Belo, Monta, and Langgudu Districts (south). The regional economy is predominantly agricultural, with approximately 90% of residents engaged in farming activities and the remaining 10% employed in various non-agricultural sectors (Bunyamin 2018).

Despite the rich cultural heritage of the Donggo Ele tribe, comprehensive ethnobotanical research specific to this community remains notably limited. Existing literature predominantly addresses broader Bima ethnic patterns without sufficient differentiation of the distinctive knowledge systems maintained by the Donggo Ele people. This research gap necessitates targeted investigation to document the specific ethnobotanical knowledge of this community.

The present study aims to comprehensively document the medicinal plant knowledge of the Donggo Ele tribe in Wawo District through systematic ethnobotanical investigation, including identification of plant species utilized for medicinal purposes, documentation of plant parts employed, preparation methods, and administration routes, and preservation of traditional ecological knowledge vulnerable to erosion through contemporary socioeconomic transformations. The research outcomes will contribute to expanding the scientific database of Indonesian medicinal plants while supporting cultural heritage preservation and potential bioprospecting initiatives that may benefit human health more broadly.

## Materials and Methods

### Study area

This research was conducted at Riamau, Tarlawi, and Raba villages administratively included in the Wawo District, Bima Regency, West Nusa Tenggara (NTB) (Figure 1). Wawo District is located in Bima Regency, West Nusa Tenggara Province. Geographically, Wawo District is located extending from north to south between 3°35'0"–3°45'0" South Latitude and extending from west to east between 121°0'0"–121°15'0" east longitude (Bunyamin 2018). The eastern part of Wawo District is bordered by Sape District, the city of Bima borders the western part, the northern part is bordered by Wera District, and the southern part is bordered by Belo, Monta, and Langgudu Districts (BPS 2021).

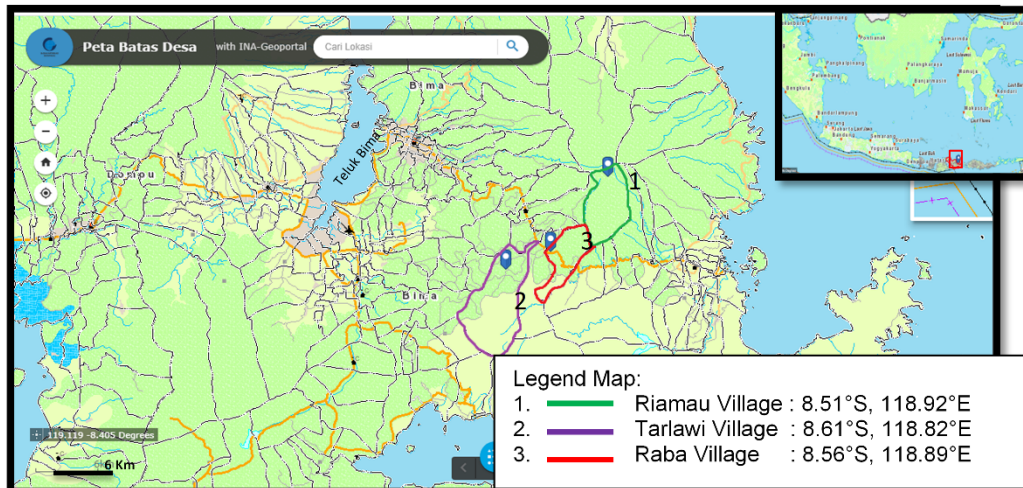


Figure 1. Map of Riamau, Tarlawi, and Raba Villages, Wawo District, Bima Regency, NTB

### Data Analysis

In this study, respondents were selected using purposive and snowball sampling methods. The initial informants were asked to recommend additional resource persons, resulting in a total of 70 respondents. Data collection was conducted through semi-structured interviews, a common method in ethnobotanical research (Jadid et al. 2020; Tesfaye et al. 2020; Kola et al. 2020; Mbuni et al. 2020). The interviews explored traditional knowledge regarding the types of medicinal plants, their uses, the plant parts involved, methods of preparation, and usage. All interviews were guided by a pre-prepared questionnaire. Plant specimens collected during field surveys were processed into herbarium vouchers, assigned individual reference codes, and archived at the Jakarta Herbarium Universitas Nasional (JHUN), Jakarta, Indonesia.

### Relative Frequency citation

Plant identification involved determining the binomial nomenclature of medicinal plant species based on interview data. Field surveys were conducted in collaboration with traditional healers (Sando) and knowledgeable community members to locate medicinal plants mentioned by local names during interviews. Searches for these plants were systematically carried out in residential yards, home gardens, and other village areas. Plant identification was performed using comprehensive taxonomic references, including the Indonesian Herbal Pharmacopoeia (KemenkesRI 2008), Taxonomy of Medicinal Plants (Tjitrosoepomo 1994), Wild Plants with Medicinal Properties (Badrunasar and Santoso 2016), Atlas of Indonesian Medicinal

Plants (Dalimartha 2008) and the Dictionary of Plant Names In The Lesser Sunda Islands (Verheijen 1990) carried out the identification of plants. For specimens that could not be identified using available references, photographs and videos were taken, and plant samples were collected to prepare herbarium specimens, which were subsequently sent to the Herbarium Bogoriense LIPI for expert taxonomic verification.

This research is descriptive, qualitative, and quantitative. From the results of interviews and field observations, a description and tabulation of the data were presented in figures and tables. For quantitative analysis, calculation of relative frequency of citation (RFC), family importance value (FIV), species use value (SUV), fidelity level (FL), and plant part value (PPV) is carried out based on the following formula:

### Relative Frequency of Citation

The RFC value is calculated based on the following formula (Sulaiman et al. 2020; Tesfaye et al. 2020):

$$RFC = (FCs / N) \times 100$$

Where, FCs is number of informants who mentioned the plant as medicine; N = Total number of interviewees

#### **Family Importance Value**

The FIV is calculated based on the following formula (Napagoda *et al.* 2018; Sulaiman *et al.* 2020):

$$FIV = (FCf / N) \times 100$$

Where, FCf is the number of sources who mention the types of plants that belong to the tribe; N is total number of interviewees

#### **Species Use Value**

The SUV is calculated based on the following formula (Jadid *et al.* 2020; Kola *et al.* 2020; Tesfaye *et al.* 2020):

$$SUV = (\Sigma UVis) / ni$$

Where,  $\Sigma UVis$  is the number of uses of the plant species stated by each resource person; ni is the total number of sources which mentioned the medicinal plant

#### **Fidelity Level**

The FL value is calculated by the following formula (Jadid *et al.* 2020; Kola *et al.* 2020; Mbuni *et al.* 2020):

$$FL = (Np / N) \times 100$$

Where, Np is the number of sources which mention certain types of plants for the treatment of certain diseases; N is the total number of informants who mentioned the plant species (for various uses).

#### **Plant Part Value**

The PPV is calculated based on the following formula (Biara *et al.* 2021; Najem *et al.* 2020; Jadid *et al.* 2020):

$$PPV = (RU_{plantpart} / RU) \times 100$$

Where,  $RU_{plantpart}$  is the amount of use stated for each part of the plant; RU is total use of all parts of the plant stated by the informant

## **Results**

### **Overview of research locations**

Wawo District has an area of 132.29 km<sup>2</sup> divided into nine villages: Tarlawi, Raba, Riamau, Pesa, Ntori, Maria, Kambilo, Kombo, and North Maria villages, and is located at an altitude of 391 meters above sea level. The village with the most significant area is Tarlawi Village, and the smallest is Kambilo Village, as shown in Table 1.

Table 1. Area, Village Height, and Total Population in Wawo District in 2019.

| Village        | Area (Km <sup>2</sup> ) | Altitude from Sea Level (Mdpl) | Total population | Population density |
|----------------|-------------------------|--------------------------------|------------------|--------------------|
| <b>Tarlawi</b> | <b>29,33</b>            | <b>471</b>                     | <b>1.253</b>     | <b>42,72</b>       |
| <b>Raba</b>    | <b>19,95</b>            | <b>498</b>                     | <b>2.302</b>     | <b>115,39</b>      |
| Pesa           | 9,03                    | 404                            | 1.923            | 212,96             |
| Ntori          | 12,25                   | 411                            | 2.243            | 183,10             |
| Maria          | 16,69                   | 391                            | 3.228            | 193,41             |
| Kambilo        | 6,45                    | 448                            | 2.216            | 343,57             |
| Kombo          | 10,37                   | 407                            | 1.871            | 180,42             |
| Maria Utara    | 10,4                    | 387                            | 2.223            | 213,75             |
| <b>Riamau</b>  | <b>17,82</b>            | <b>741</b>                     | <b>670</b>       | <b>37,60</b>       |

Source: BPS Bima Regency, 2021.



Figure 2. Residents' houses in the village, a. Riamau; b. Tarlawi; c. Raba

Wawo District is a unique area with people who are still traditional, both in terms of building houses and the habit of using plants as traditional medicine, especially in the villages that are the location of this research. Most of the houses in Wawo District, especially in Riamau, Tarlawi, and Raba villages, are semi-permanent houses shaped like stilt houses (Figure 2).

#### Informant demographics

The demographic characteristics of the informants in this ethnobotanical study are summarized in the following Table 2. A total of 70 informants participated, with a majority being female (67.14%) and the remaining male (32.86%). All informants reported having experience with traditional healing practices. The age distribution ranged from 26 to over 66 years, with the largest group being aged 36-45 years (30.00%). Regarding occupation, most informants were housewives (42.86%), followed by farmers (34.29%), teachers (12.86%), and civil servants (10.00%).

Table 2. Demographic Characteristics of the informants in the study area.

| Parameter          | Category           | Number | Frequency (%) |
|--------------------|--------------------|--------|---------------|
| Sex                | Male               | 23     | 32,86%        |
|                    | Female             | 47     | 67,14%        |
| Healing Experience | General informants | 70     | 100,00%       |
| Age (in years)     | 26-35              | 14     | 20,00%        |
|                    | 36-45              | 21     | 30,00%        |
|                    | 46-55              | 17     | 24,29%        |
|                    | 56-65              | 12     | 17,14%        |
|                    | 66 and above       | 6      | 8,57%         |
| Livelihood         | Farmer             | 24     | 34,29%        |
|                    | Housewife          | 30     | 42,86%        |
|                    | Teacher            | 9      | 12,86%        |
|                    | Civil servant      | 7      | 10,00%        |

**Diversity and multifunctionality of medicinal plants in local communities**

Research and interviews with 70 informants in Riamau, Tarlawi, and Raba Villages, Wawo Sub-district, identified at least 186 plant species used as medicines, grouped into 62 families (Table 3). Of these, 171 species were fully identified, while 15 could not be classified due to incomplete plant samples. The Donggo Ele community uses these plants to treat 67 types of internal and external diseases.

Table 3. Types of Plants Used as Medicines by the Donggo Ele Tribe in Wawo District.

| Local                 | Plant name                   |   | Voucher Number | Family         |
|-----------------------|------------------------------|---|----------------|----------------|
|                       | Indonesian / general         | Latin/Binomial                                      |                |                |
| Keci beling           | Kejibeling                   | <i>Strobilanthes crispa</i> (L.) Blume              | JHUN-21803     | Acanthaceae    |
| Sampuri wawi          | Sambiloto                    | <i>Andrographis paniculata</i> (Burm.fil.) Nees     | JHUN-21804     | Acanthaceae    |
| Kajarasa              | Bayam duri                   | <i>Amaranthus spinosus</i> L.                       | JHUN-21805     | Amaranthaceae  |
| Kenop                 | Kenop                        | <i>Gomphrena globosa</i> L.                         | JHUN-21806     | Amaranthaceae  |
| Mbodo                 | Boroco                       | <i>Celosia argentea</i> L.                          | JHUN-21807     | Amaranthaceae  |
| Bawa kala             | Bawang merah                 | <i>Allium ascalonicum</i> L.                        | JHUN-21808     | Amaryllidaceae |
| Ncuna                 | Bawang putih kecil           | <i>Allium sativum</i> L.                            | JHUN-21809     | Amaryllidaceae |
| Jambu sempodo         | Jambu mede / Jambu monyet    | <i>Anacardium occidentale</i> L.                    | JHUN-21810     | Anacardiaceae  |
| Kadondo               | Kedondong pagar              | <i>Spondias pinnata</i> (L.fil.) Kurz               | JHUN-21811     | Anacardiaceae  |
| Rope fo'o             | Mangga                       | <i>Mangifera indica</i> L.                          | JHUN-21812     | Anacardiaceae  |
| Garoso jawa           | Sirsak                       | <i>Annona muricata</i> L.                           | JHUN-21813     | Annonaceae     |
| Garoso mbojo/doro     | Nona / srikaya               | <i>Annona squamosa</i> L.                           | JHUN-21814     | Annonaceae     |
| Kananga               | Kenanga                      | <i>Cananga odorata</i> (Lam.) Hook.f. & Thomson     | JHUN-21815     | Annonaceae     |
| Ketumbar              | Ketumbar                     | <i>Coriandrum sativum</i> L.                        | JHUN-21816     | Apiaceae       |
| Maewa/Roo cena/Kancia | Pegagan                      | <i>Centella asiatica</i> (L.) Urb.                  | JHUN-21817     | Apiaceae       |
| Musi                  | Adas                         | <i>Foeniculum vulgare</i> Mill.                     | JHUN-21818     | Apiaceae       |
| Roo sop               | Seledri                      | <i>Apium graveolens</i> L.                          | JHUN-21819     | Apiaceae       |
| Fuu kore              | Biduri                       | <i>Calotropis gigantea</i> (L.) W.T.Aiton           | JHUN-21820     | Apocynaceae    |
| Rida                  | Pulai                        | <i>Alstonia scholaris</i> (L.) R.Br.                | JHUN-21821     | Apocynaceae    |
| Rope jermawa          | Kamboja                      | <i>Plumeria obtusa</i> L.                           | JHUN-21822     | Apocynaceae    |
| Tula                  | Belum dapat diidentifikasi   | <i>Alstonia spectabilis</i> R.Br.                   | JHUN-21823     | Apocynaceae    |
| Porang/kamaja         | Iles-iles                    | <i>Amorphophallus muelleri</i> Blume                | JHUN-21824     | Araceae        |
| Roo Mangko            | Daun mangkok                 | <i>Polyscias scutellaria</i> (Burm.fil.) Fosberg    | JHUN-21825     | Araliaceae     |
| Enook                 | Enau                         | <i>Arenga pinnata</i> (Wurmb) Merr.                 | JHUN-21826     | Arecaceae      |
| Ni'u                  | Kelapa                       | <i>Cocos nucifera</i> L.                            | JHUN-21827     | Arecaceae      |
| Ua karici             | Pinang                       | <i>Areca catechu</i> L.                             | JHUN-21828     | Arecaceae      |
| Lidah buaya           | Lidah buaya                  | <i>Aloe vera</i> (L.) Burm.f.                       | JHUN-21829     | Asphodelaceae  |
| Ajeran                | Samari sara                  | <i>Bidens pilosa</i> L.                             | JHUN-21830     | Asteraceae     |
| Daun Dewa             | Daun Dewa                    | <i>Gynura divaricata</i> (L.) DC.                   | JHUN-21831     | Asteraceae     |
| Jabu                  | Sintrong                     | <i>Crassocephalum crepidioides</i> (Benth.) S.Moore | JHUN-21832     | Asteraceae     |
| Lera sahe             | Tapak liman                  | <i>Elephantopus scaber</i> L.                       | JHUN-21833     | Asteraceae     |
| Tai janga             | Bunga Tahi Ayam / tembelekan | <i>Tagetes erecta</i> L.                            | JHUN-21834     | Asteraceae     |

| Local               | Plant name           |  | Voucher Number | Family                          |
|---------------------|----------------------|--|----------------|---------------------------------|
|                     | Indonesian / general | Latin/Binomial   |                |                                 |
| Tari'i ingao        | Bandotan             | <i>Ageratum conyzoides</i> L.                          | JHUN-21835     | Asteraceae                      |
| Tempuyung           | Tempuyung            | <i>Sonchus arvensis</i> L.                             | JHUN-21836     | Asteraceae                      |
| Bunga anting        | Pacar air            | <i>Impatiens balsamina</i> L.                          | JHUN-21837     | Balsaminaceae                   |
| Binho/Roo ndola     | Binahong             | <i>Anredera cordifolia</i> (Ten.) Steenis              | JHUN-21838     | Basellaceae                     |
| Ponda wila          | Majapahit            | <i>Crescentia cujete</i> L.                            | JHUN-21839     | Bignoniaceae                    |
| Nenas               | Nanas                | <i>Ananas comosus</i> (L.) Merr.                       | JHUN-21840     | Bromeliaceae                    |
| Loa / Ketimus       | Tenggulun            | <i>Protium javanicum</i> Burm.fil.                     | JHUN-21841     | Burseraceae                     |
| Wunta kalupa        | Kembang merak        | <i>Caesalpinia pulcherrima</i> (L.) Sw.                | JHUN-21842     | Caesalpinaceae<br>(Leguminosae) |
| Panja               | Pepaya               | <i>Carica papaya</i> L.                                | JHUN-21843     | Caricaceae                      |
| Manggis             | Manggis              | <i>Garcinia mangostana</i> L.                          | JHUN-21844     | Clusiaceae                      |
| Golka/Golkar        | Rumput minjangan     | <i>Chromolaena odorata</i> (L.) R.M.King & H.Rob.      | JHUN-21845     | Asteraceae                      |
| Kangkung            | Kangkung             | <i>Ipomoea aquatica</i> Forssk.                        | JHUN-21846     | Convolvulaceae                  |
| Lere                | Tapak kuda           | <i>Ipomoea pes-caprae</i> (L.) R.Br.                   | JHUN-21847     | Convolvulaceae                  |
| Uwi keta            | Ubi jalar            | <i>Ipomoea batatas</i> (L.) Lam.                       | JHUN-21848     | Convolvulaceae                  |
| Roo karaka          | Karaka               | <i>Corynocarpus laevigatus</i> J.R.Forst. & G.Forst.   | JHUN-21849     | Corynocarpaceae                 |
| Roo papindi         | Cocor bebek          | <i>Kalanchoe pinnata</i> (Lam.) Pers.                  | JHUN-21850     | Crassulaceae                    |
| Dimu                | Timun                | <i>Cucumis sativus</i> L.                              | JHUN-21851     | Cucurbitaceae                   |
| Korpa'i doro        | Belustru             | <i>Luffa acutangula</i> (L.) Roxb.                     | JHUN-21852     | Cucurbitaceae                   |
| Peria               | Pare hutan           | <i>Momordica balsamina</i> L.                          | JHUN-21853     | Cucurbitaceae                   |
| Ponda ndali         | Labu air             | <i>Lagenaria siceraria</i> (Molina) Standl.            | JHUN-21854     | Cucurbitaceae                   |
| Rima ponda          | Labu kuning          | <i>Cucurbita moschata</i> (Duchesne) Duchesne ex Poir. | JHUN-21855     | Cucurbitaceae                   |
| Sisi                | Rumput               | <i>Cyperus rotundus</i> L.                             | JHUN-21856     | Cyperaceae                      |
| Sangari             | Ajang kelicung       | <i>Diospyros macrophylla</i> Blume                     | JHUN-21857     | Ebenaceae                       |
| Kaleli              | Kemiri               | <i>Aleurites moluccana</i> (L.) Willd.                 | JHUN-21858     | Euphorbiaceae                   |
| Mutu/Kanola         | Patikan kebo         | <i>Euphorbia hirta</i> L.                              | JHUN-21859     | Euphorbiaceae                   |
| Piklaw              | Puring               | <i>Codiaeum variegatum</i> (L.) Rumph. ex A.Juss.      | JHUN-21860     | Euphorbiaceae                   |
| Roo Bojo            | Singkong             | <i>Manihot esculenta</i> Crantz                        | JHUN-21861     | Euphorbiaceae                   |
| Srigi               | Jarak merah          | <i>Jatropha gossypifolia</i> L.                        | JHUN-21862     | Euphorbiaceae                   |
| Tatanga/Roo katanga | Jarak pagar          | <i>Jatropha curcas</i> L.                              | JHUN-21863     | Euphorbiaceae                   |
| Bue tanah           | Kacang tanah         | <i>Arachis hypogaea</i> L.                             | JHUN-21864     | Fabaceae                        |
| Buri                | Bengkoang            | <i>Pachyrhizus erosus</i> (L.) Urb.                    | JHUN-21865     | Fabaceae                        |
| Kacika ngao         | Putri malu           | <i>Mimosa pudica</i> L.                                | JHUN-21866     | Fabaceae                        |
| Ka'dara / Kelici    | Kebiul               | <i>Guilandina bonduc</i> L.                            | JHUN-21867     | Fabaceae                        |
| Kalkapi             | Senna                | <i>Senna alexandrina</i> Mill.                         | JHUN-21868     | Fabaceae                        |
| Patei buah          | Petai china          | <i>Leucaena leucocephala</i> (Lam.) de Wit             | JHUN-21869     | Fabaceae                        |
| Saga                | Saga                 | <i>Abrus precatorius</i> L.                            | JHUN-21870     | Fabaceae                        |
| Supa                | Secang               | <i>Biancaea sappan</i> (L.) Tod.                       | JHUN-21871     | Fabaceae                        |

| Local        | Plant name                       |   | Voucher Number | Family         |
|--------------|----------------------------------|---|----------------|----------------|
|              | Indonesian / general             | Latin/Binomial  |                |                |
| Bue          | Kacang Panjang                   | <i>Vigna unguiculata</i> (L.) Walp.                     | JHUN-21872     | Fabaceae       |
| Kakapi       | Ketepeng cina                    | <i>Senna alata</i> (L.) Roxb.                           | JHUN-21873     | Fabaceae       |
| Pelawu       | Turi                             | <i>Sesbania grandiflora</i> (L.) Poir.                  | JHUN-21874     | Fabaceae       |
| Rope rufe    | Bauhinia (daun kupu-kupu)        | <i>Bauhinia</i> sp.                                     | JHUN-21875     | Fabaceae       |
| Mangge       | Asam Jawa                        | <i>Tamarindus indica</i> L.                             | JHUN-21876     | Fabaceae       |
| Petah doro   | Kemangi gunung/<br>Kemangi hutan | <i>Ocimum</i> sp.                                       | JHUN-21877     | Lamiaceae      |
| Bumbu jo     | Daun jinten                      | <i>Coleus amboinicus</i> Lour.                          | JHUN-21878     | Lamiaceae      |
| Jati         | Jati                             | <i>Tectona grandis</i> L.f.                             | JHUN-21879     | Lamiaceae      |
| Kumis kucing | Kumis kucing                     | <i>Orthosiphon stamineus</i> Benth.                     | JHUN-21880     | Lamiaceae      |
| Mila         | Nilam                            | <i>Pogostemon cablin</i> (Blanco) Benth.                | JHUN-21881     | Lamiaceae      |
| Pataha kolo  | Kemangi                          | <i>Ocimum basilicum</i> L.                              | JHUN-21882     | Lamiaceae      |
| Alpuka       | Alpukat                          | <i>Persea americana</i> Mill.                           | JHUN-21883     | Lauraceae      |
| Kayu mani    | Kayu manis                       | <i>Cinnamomum burmanni</i> (Nees & T.Nees) Blume        | JHUN-21884     | Lauraceae      |
| Puli lawa    | Lawang                           | <i>Cinnamomum culilawan</i> (L.) Kosterm.               | JHUN-21885     | Lauraceae      |
| Katipu       | Putat                            | <i>Planchonia valida</i> (Blume) Blume                  | JHUN-21886     | Lecythidaceae  |
| Songga       | Bidara laut                      | <i>Strychnos ligustrina</i> Blume                       | JHUN-21887     | Loganiaceae    |
| Panca        | Pacar kuku / daun inai           | <i>Lawsonia inermis</i> L.                              | JHUN-21888     | Lythraceae     |
| Rondu        | Bungur                           | <i>Lagerstroemia speciosa</i> (L.) Martyn               | JHUN-21889     | Lythraceae     |
| Jampaka      | Cempaka                          | <i>Magnolia champaca</i> (L.) Baill. ex Pierre          | JHUN-21890     | Magnoliaceae   |
| Fu'u Wau     | Waru                             | <i>Hibiscus tiliaceus</i> L.                            | JHUN-21891     | Malvaceae      |
| Gedi         | Gedi                             | <i>Abelmoschus manihot</i> (L.) Medik.                  | JHUN-21892     | Malvaceae      |
| Kapas        | Kapas                            | <i>Gossypium herbaceum</i> L.                           | JHUN-21893     | Malvaceae      |
| Ubamia       | Okra                             | <i>Abelmoschus esculentus</i> (L.) Moench               | JHUN-21894     | Malvaceae      |
| Ringi        | Kapuk / Randu                    | <i>Ceiba pentandra</i> (L.) Gaertn.                     | JHUN-21895     | Malvaceae      |
| Paramau      | Sidaguri                         | <i>Sida rhombifolia</i> L.                              | JHUN-21896     | Malvaceae      |
| Mahuni       | Mahoni                           | <i>Swietenia mahagoni</i> (L.) Jacq.                    | JHUN-21897     | Meliaceae      |
| Nimba        | Mimba                            | <i>Azadirachta indica</i> A.Juss.                       | JHUN-21898     | Meliaceae      |
| Tamba        | Brotowali                        | <i>Tinospora crispa</i> (L.) Miers ex Hook.f. & Thomson | JHUN-21899     | Menispermaceae |
| Na'a         | Ara                              | <i>Ficus carica</i> L.                                  | JHUN-21900     | Moraceae       |
| Nangga       | Nangka                           | <i>Artocarpus heterophyllus</i> Lam.                    | JHUN-21901     | Moraceae       |
| Roo kolo     | Kluwih                           | <i>Artocarpus camansi</i> Blanco                        | JHUN-21902     | Moraceae       |
| Tere         | Sukun                            | <i>Artocarpus altilis</i> (Parkinson) Fosberg           | JHUN-21903     | Moraceae       |
| Wosu         | Awar-awar                        | <i>Ficus septica</i> Burm.fil.                          | JHUN-21904     | Moraceae       |
| Parongge     | Kelor                            | <i>Moringa oleifera</i> Lam.                            | JHUN-21905     | Moringaceae    |

| Local                    | Plant name                |  | Voucher Number | Family         |
|--------------------------|---------------------------|--|----------------|----------------|
|                          | Indonesian / general      | Latin/Binomial                                       |                |                |
| Parongge keta            | Kelor ungu                | <i>Moringa oleifera</i> Lam.                         | JHUN-21906     | Moringaceae    |
| Anggo                    | Kersen                    | <i>Muntingia calabura</i> L.                         | JHUN-21907     | Muntingiaceae  |
| Kalo                     | Pisang                    | <i>Musa x paradisiaca</i> L.                         | JHUN-21908     | Musaceae       |
| Kalo goa                 | Pisang batu               | <i>Musa balbisiana</i> Colla                         | JHUN-21909     | Musaceae       |
| Kapala                   | Pala                      | <i>Myristica fragrans</i> Houtt.                     | JHUN-21910     | Myristicaceae  |
| Cengkeh                  | Cengkeh                   | <i>Syzygium aromaticum</i> (L.)<br>Merr. & L.M.Perry | JHUN-21911     | Myrtaceae      |
| Duwet                    | Jamblang                  | <i>Syzygium cumini</i> (L.) Skeels                   | JHUN-21912     | Myrtaceae      |
| Jambu air                | Jambu air                 | <i>Syzygium aqueum</i><br>(Burm.fil.) Alston         | JHUN-21913     | Myrtaceae      |
| Jambu batu               | Jambu batu                | <i>Psidium guajava</i> L.                            | JHUN-21914     | Myrtaceae      |
| Monggo                   | Salam                     | <i>Syzygium polyanthum</i><br>(Wight) Walp.          | JHUN-21915     | Myrtaceae      |
| Pukul empat              | Pukul empat               | <i>Mirabilis jalapa</i> L.                           | JHUN-21916     | Nyctaginaceae  |
| Sandanawa                | Kol Banda                 | <i>Pisonia alba</i> Span.                            | JHUN-21917     | Nyctaginaceae  |
| Melati                   | Melati                    | <i>Jasminum sambac</i> (L.)<br>Aiton                 | JHUN-21918     | Oleaceae       |
| Belimbing wuluh          | Belimbing wuluh           | <i>Averrhoa bilimbi</i> L.                           | JHUN-21919     | Oxalidaceae    |
| Kabisa                   | Semangi                   | <i>Oxalis corniculata</i> L.                         | JHUN-21920     | Oxalidaceae    |
| Limbi                    | Belimbing                 | <i>Averrhoa carambola</i> L.                         | JHUN-21921     | Oxalidaceae    |
| Pandan wangi             | Pandan wangi              | <i>Pandanus amaryllifolius</i><br>Roxb.              | JHUN-21922     | Pandanaceae    |
| Kambesi                  | Katu                      | <i>Sauropus androgynus</i> (L.)<br>Merr.             | JHUN-21923     | Phyllanthaceae |
| Sarume                   | Cermai                    | <i>Phyllanthus acidus</i> (L.)<br>Skeels             | JHUN-21924     | Phyllanthaceae |
| Sirimangge/maramu<br>ncu | Meniran                   | <i>Phyllanthus niruri</i> L.                         | JHUN-21925     | Phyllanthaceae |
| Nahi                     | Sirih                     | <i>Piper betle</i> L.                                | JHUN-21926     | Piperaceae     |
| Nevo                     | Pariparoba                | <i>Piper umbellatum</i> L.                           | JHUN-21927     | Piperaceae     |
| Sa'biya                  | Cabai jawa                | <i>Piper retrofractum</i> Vahl                       | JHUN-21928     | Piperaceae     |
| Sahajawa/Isi ngguru      | Merica                    | <i>Piper nigrum</i> L.                               | JHUN-21929     | Piperaceae     |
| Suruhan                  | Tumpang air/sirih<br>cina | <i>Peperomia pellucida</i> (L.)<br>Kunth             | JHUN-21930     | Piperaceae     |
| Alang-alang              | Alang-alang               | <i>Imperata cylindrica</i> (L.)<br>Raeusch.          | JHUN-21931     | Poaceae        |
| Dobu                     | Tebu                      | <i>Saccharum officinarum</i> L.                      | JHUN-21932     | Poaceae        |
| Fari me'e                | beras hitam               | <i>Oryza sativa</i> L.                               | JHUN-21933     | Poaceae        |
| Hiwa bongi/Fare naie     | padi (beras)              | <i>Oryza sativa</i> L. var.<br>glutinosa             | JHUN-21934     | Poaceae        |
| Jago                     | Jagung                    | <i>Zea mays</i> L.                                   | JHUN-21935     | Poaceae        |
| O'o rangge               | Bambu                     | <i>Bambusa</i> sp.                                   | JHUN-21936     | Poaceae        |
| Petaha mpori             | Serai                     | <i>Cymbopogon citratus</i> (DC.)<br>Stapf            | JHUN-21937     | Poaceae        |
| Karuhu                   | Paku sarang               | <i>Asplenium nidus</i> L.                            | JHUN-21938     | Polypodiaceae  |
| Soka                     | Krokot                    | <i>Portulaca oleracea</i> L.                         | JHUN-21939     | Portulacaceae  |
| Talima                   | Delima                    | <i>Punica granatum</i> L.                            | JHUN-21940     | Punicaceae     |
| Rangga                   | Bidara                    | <i>Ziziphus mauritiana</i> Lam.                      | JHUN-21941     | Rhamnaceae     |
| Wako                     | Bakau                     | <i>Rhizophora racemosa</i><br>G.Mey.                 | JHUN-21942     | Rhizophoraceae |
| Humpa mbai               | Daun kentut               | <i>Paederia foetida</i> L.                           | JHUN-21943     | Rubiaceae      |
| Kahawa                   | Kopi                      | <i>Coffea arabica</i> L.                             | JHUN-21944     | Rubiaceae      |
| Nonu                     | Mengkudu                  | <i>Morinda citrifolia</i> L.                         | JHUN-21945     | Rubiaceae      |

| Local                   | Plant name                                 |   | Voucher Number | Family        |
|-------------------------|--|---|----------------|---------------|
|                         | Indonesian / general                       | Latin/Binomial  |                |               |
| Dongga cia              | Jeruk nipis                                | <i>Citrus aurantiifolia</i><br>(Christm.) Swingle                               | JHUN-21946     | Rutaceae      |
| Dongga isu              | Jeruk peras                                | <i>Citrus</i> sp.   | JHUN-21947     | Rutaceae      |
| Ponda landu             | Maja                                       | <i>Aegle marmelos</i> (L.)<br>Corrãa  | JHUN-21948     | Rutaceae      |
| Kinca / Kawi            | Kawista                                    | <i>Limonia acidissima</i> L.  | JHUN-21949     | Rutaceae      |
| Dongi mee               | Beras Ketan                                | <i>Oryza sativa</i> L.  | JHUN-21950     | Sapindaceae   |
| Sambi                   | Kesambi                                    | <i>Schleichera oleosa</i> (Lour.)<br>Oken                                       | JHUN-21951     | Sapindaceae   |
| Sawo                    | Sawo                                       | <i>Manilkara zapota</i> (L.)<br>P.Royen   | JHUN-21952     | Sapotaceae    |
| Pasak bumi              | Pasak bumi                                 | <i>Eurycoma longifolia</i> Jack   | JHUN-21953     | Simaroubaceae |
| Bembe                   | Kecubung gunung                            | <i>Brugmansia suaveolens</i><br>(Humb. & Bonpl. ex Willd.)<br>Bercht. & J.Presl | JHUN-21954     | Solanaceae    |
| Kandui kerehe           | Terong duri / Terong<br>pari/ Terong tomat | <i>Solanum carolinense</i> L.   | JHUN-21955     | Solanaceae    |
| Kandui maju             | Rimbang                                    | <i>Solanum torvum</i> Sw.   | JHUN-21956     | Solanaceae    |
| Kanturu                 | Terong pipit                               | <i>Solanum torvum</i> Sw.   | JHUN-21957     | Solanaceae    |
| Katobo                  | Ciplukan                                   | <i>Physalis peruviana</i> L.  | JHUN-21958     | Solanaceae    |
| Saha mpida              | Cabe rawit                                 | <i>Capsicum frutescens</i> L.   | JHUN-21959     | Solanaceae    |
| Tambaku                 | Tembakau                                   | <i>Nicotiana tabacum</i> L.   | JHUN-21960     | Solanaceae    |
| Terong ungu             | Terong ungu                                | <i>Solanum melongena</i> L.   | JHUN-21961     | Solanaceae    |
| Tomat                   | Tomat                                      | <i>Solanum lycopersicum</i> L.  | JHUN-21962     | Solanaceae    |
| Banggu                  | Temu hitam                                 | <i>Curcuma aeruginosa</i> Roxb.   | JHUN-21963     | Zingiberaceae |
| Huni                    | Kunyit                                     | <i>Curcuma longa</i> L.   | JHUN-21964     | Zingiberaceae |
| Kampuja                 | Bangle                                     | <i>Zingiber cassumunar</i> Roxb.  | JHUN-21965     | Zingiberaceae |
| Kamunti / Tama<br>kunci | Temu kunci                                 | <i>Boesenbergia rotunda</i> (L.)<br>Mansf.                                      | JHUN-21966     | Zingiberaceae |
| Lau                     | Lengkuas/Laos                              | <i>Alpinia galanga</i> (L.) Willd.  | JHUN-21967     | Zingiberaceae |
| Lempuyang               | Lempuyang                                  | <i>Zingiber zerumbet</i> (L.)<br>Roscoe ex Sm.                                  | JHUN-21968     | Zingiberaceae |
| Ntonu                   | Kunyit putih                               | <i>Curcuma zedoaria</i><br>(Christm.) Roscoe                                    | JHUN-21969     | Zingiberaceae |
| Rea                     | Jahe                                       | <i>Zingiber officinale</i> Roscoe   | JHUN-21970     | Zingiberaceae |
| Soku                    | Kencur                                     | <i>Kaempferia galanga</i> L.  | JHUN-21971     | Zingiberaceae |
| Tamulawa                | Temulawak                                  | <i>Curcuma xanthorrhiza</i><br>Roxb.  | JHUN-21972     | Zingiberaceae |
| Tawoa                   | Temu giring                                | <i>Curcuma heyneana</i><br>Valeton & Zipj.                                      | JHUN-21973     | Zingiberaceae |

#### How to prepare and use medicinal plants

The methods of preparing medicinal plants by the people of Donggo Ele, especially in Riamau, Tarlawi, and Raba, are very diverse. There are soaked, squeezed, cooked, extracted sap, shredded, brewed, unprocessed, squeezed, boiled, and pounded (Figure 3). Meanwhile, the ways of using medicinal plants by the Donggo Ele community are also very diverse, including Sown, Gargled, Sprayed, Soaked, Dripped, Shampooed, Incised, Taped, Eaten, Smearred, and Drank (Figure 4).

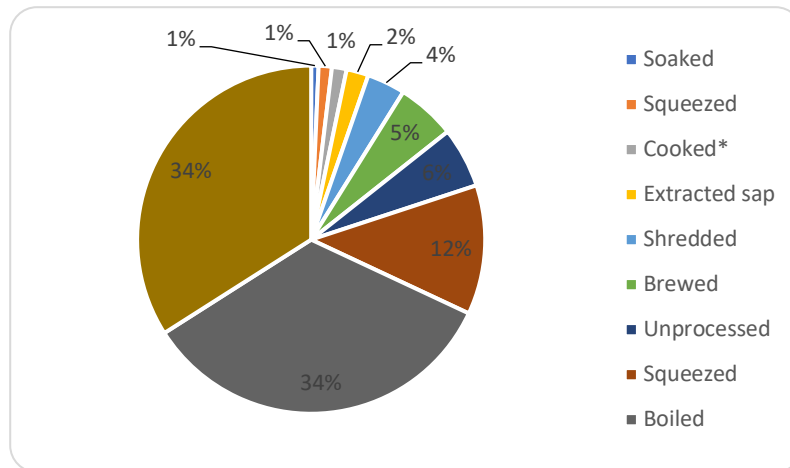


Figure 3. Distribution of preparation methods employed in medicinal plant utilization. \*Cooked preparations refer to plants that were processed and incorporated into prepared dishes

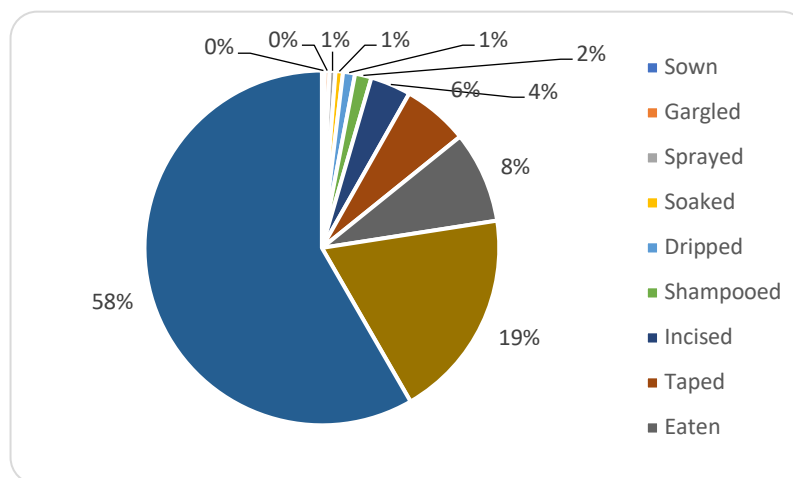


Figure 4. How to Use Medicinal Plants

**Relative Frequency of Citation (RFC)**

The medicinal plant species most known or popular among the informants are *Curcuma longa* L. and *Zingiber officinale* Roscoe, with RFC values of 69.05% and 54.76%, respectively (Figure 5).

**Species Use Value (SUV)**

The SUV value is obtained by dividing each resource person's number of uses of the plant species by the number of informants who mention the medicinal plant species. In other words, one plant species will get a high SUV value if the number of uses of the species is enormous. Some medicinal plants with the highest SUV values are presented in Figure 6.

**Family Importance Value (FIV)**

There were 62 plant families, with the highest FIV value being Zingiberaceae at 90.476%, followed by Fabaceae (79.762%), Myrtaceae (70.238%), Euphorbiaceae (70.238%), and Piperaceae (54.762%) as shown in Figure 7.

**Fidelity Level (FL)**

In this study, the calculation of Fidelity Level (FL) was also carried out. Figure 8 shows the highest FL value from the use of medicinal plants known by more than 11 sources. *Syzygium aqueum* (Burm.f.) Alsto had the highest Fidelity Level of 100% medicine for diarrhea or stomach pain.

**Plant Part Value (PPV)**

Many plant parts are useful for treating diseases, such as leaves, flowers, fruit, tubers, roots, stems, rhizomes, seeds, bark, fruit peels, sap, etc. The most widely used plant parts by the Donggo Ele tribe as medicinal ingredients are leaves (38,082%),

and the least used plant parts are fruit (14,754%). PPV of plants used as medicinal ingredients by the Donggo Ele community are presented in Figure 9, while the plant parts used for each medicinal plant species are shown in Table 3.

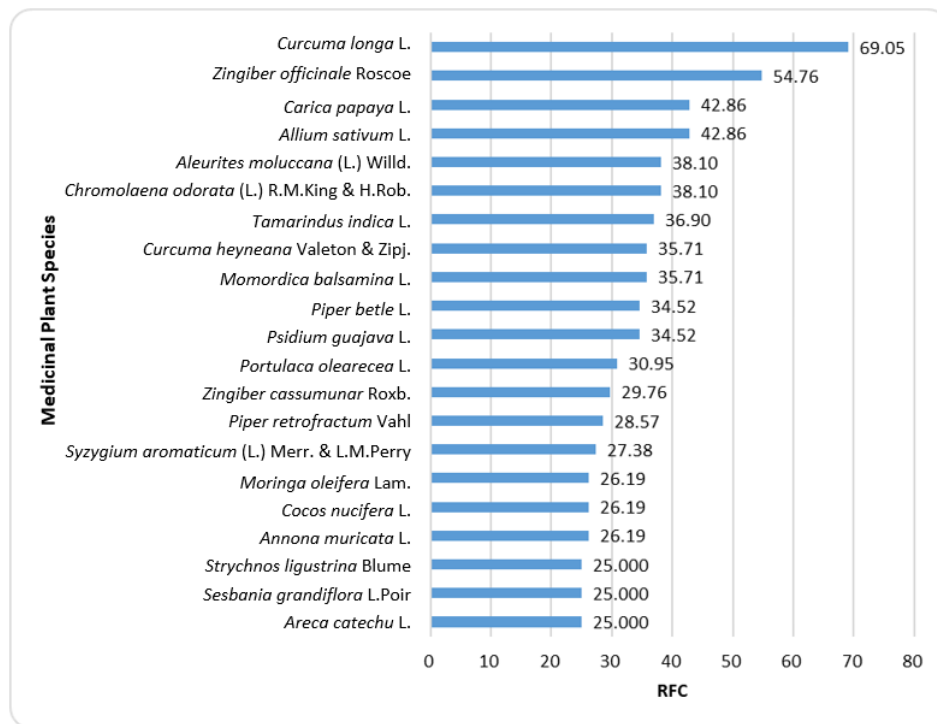


Figure 5. Medicinal plants of the Donggo Ele Tribe which have the highest RFC value

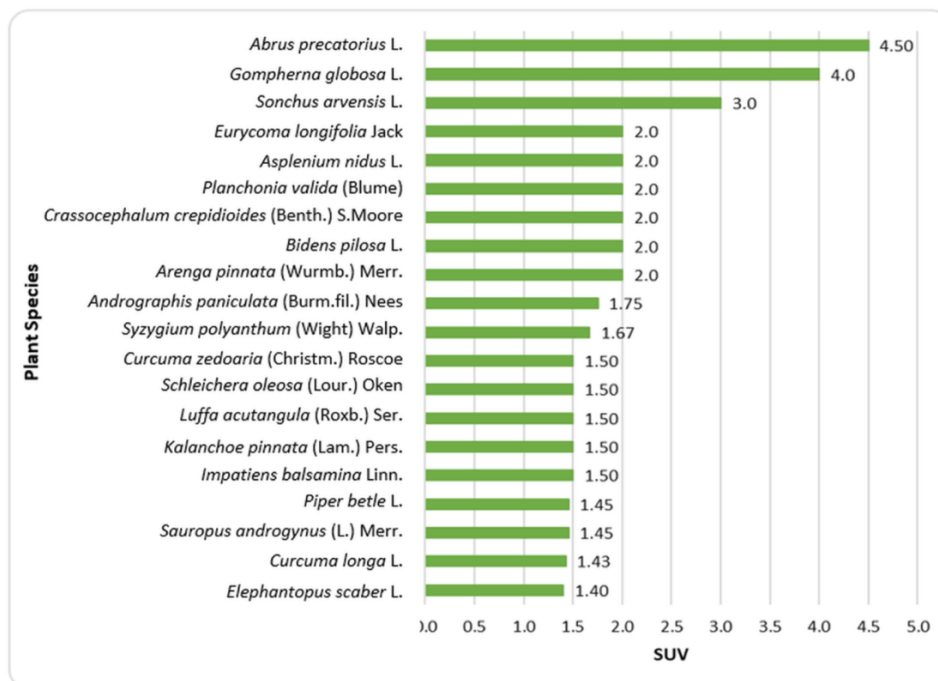


Figure 6. Medicinal plants of the Donggo Ele Tribe, which has the highest SUV

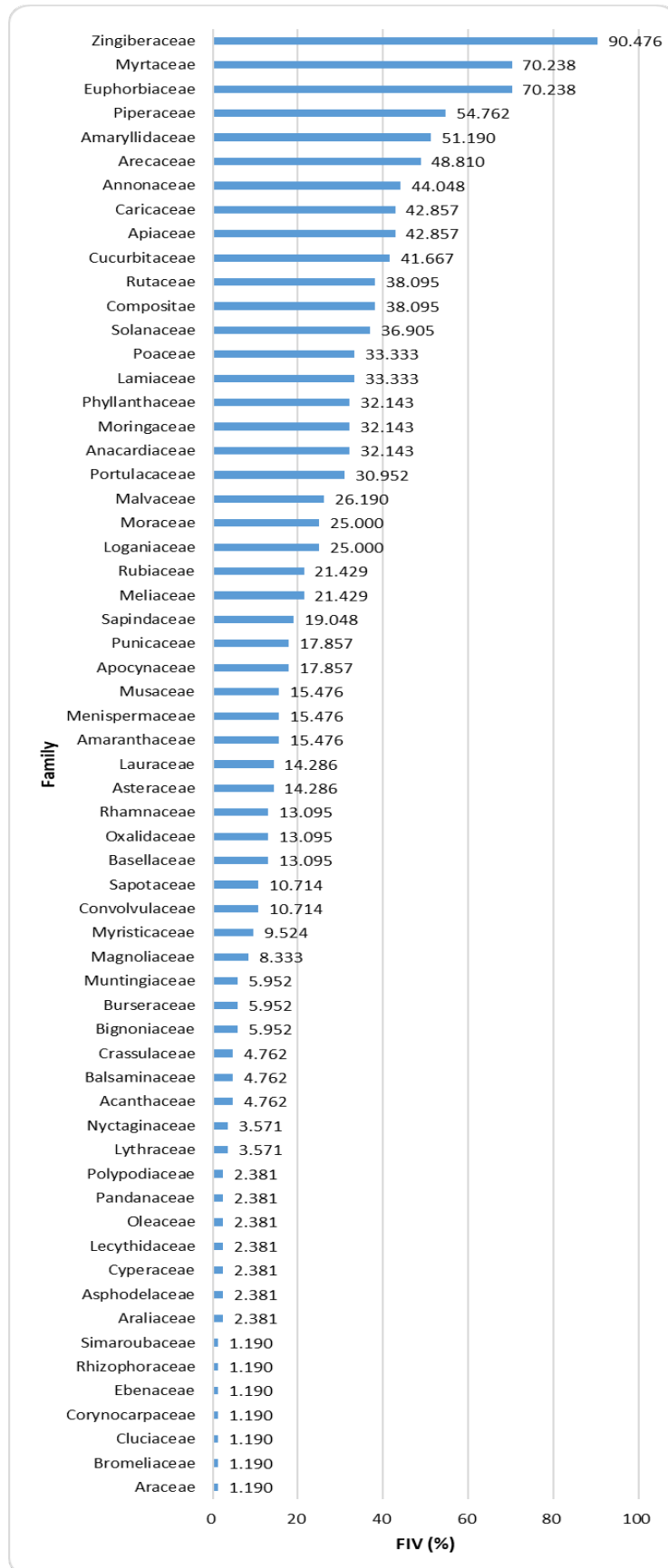


Figure 7. FIV value of medicinal plants used by the Donggo Ele people

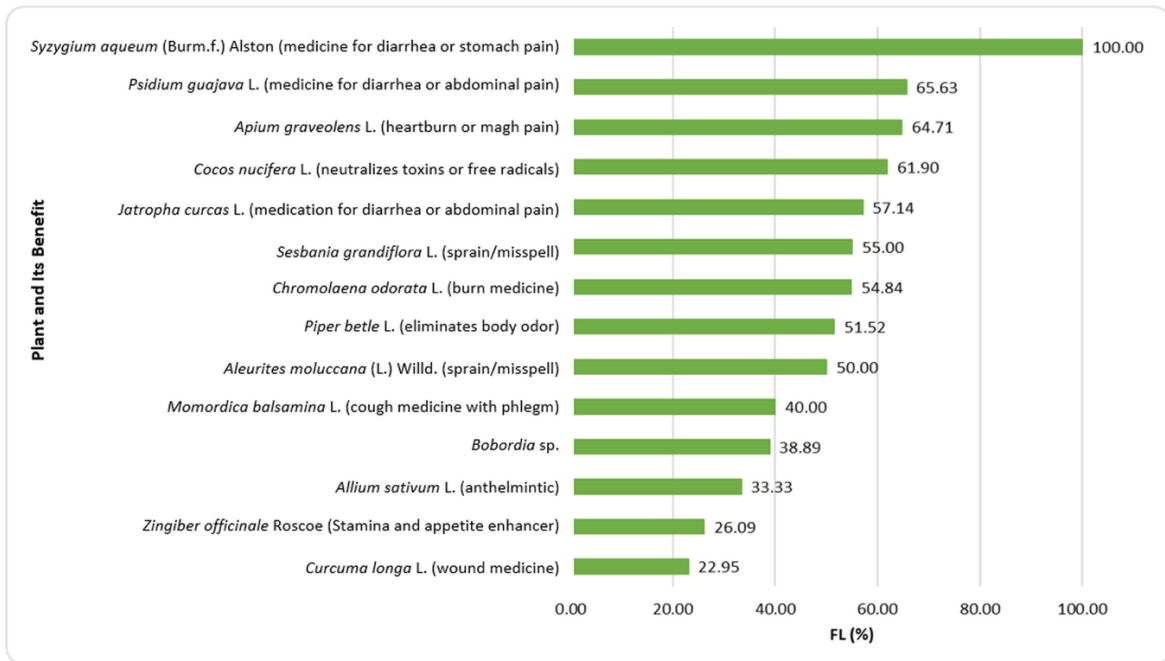


Figure 8. The highest FL value of the use of medicinal plants of the Donggo Ele community

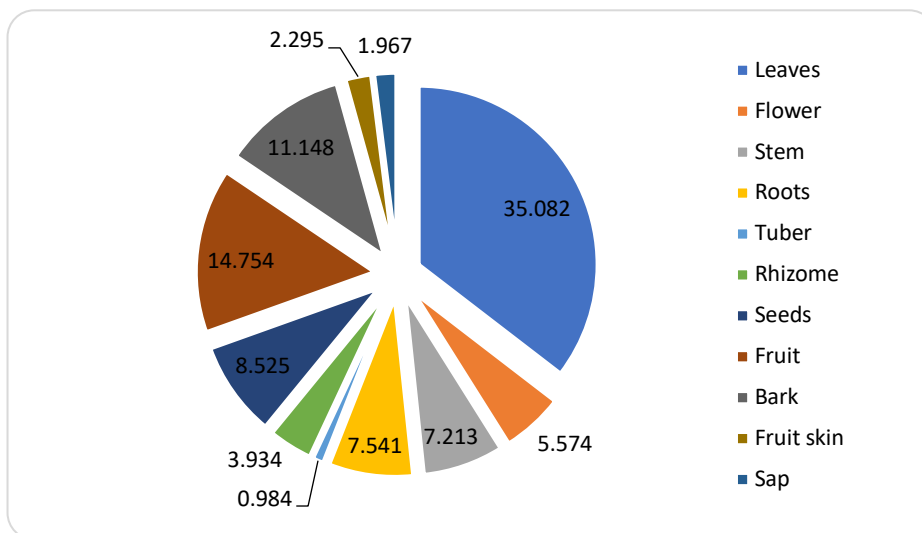


Figure 9. PPV Value of Medicinal Plants Used by the Donggo Ele Community

Table 4. Plant Parts Used for Each Medicinal Plant Species.

| Plant Name      |                 |   | Family         | Part used           |
|-----------------|-----------------|---|----------------|---------------------|
| Local           | Indonesian      | Latin   |                |                     |
| Ajeran          | Samari sara     | <i>Bidens pilosa</i> L.   | Asteraceae     | Stems, Roots        |
| Alang-alang     | Alang-alang     | <i>Imperata cylindrica</i> (L.) Raeusch.                                  | Poaceae        | Roots               |
| Alpuka          | Alpukat         | <i>Persea americana</i> Mill.   | Lauraceae      | Leaf, Fruit         |
| Anggo           | Kersen          | <i>Muntingia calabura</i> L.  | Muntingiaceae  | Fruit, leaf         |
| Banggu          | Temu hitam      | <i>Curcuma aeruginosa</i> Roxb.   | Zingiberaceae  | Rhizome             |
| Bawa kala       | Bawang merah    | <i>Allium ascalonicum</i> L.  | Amaryllidaceae | Tuber               |
| Belimbing wuluh | Belimbing wuluh | <i>Averrhoa bilimbi</i> L.  | Oxalidaceae    | Leaf, Flower, Fruit |
| Bembe           | Kecubung gunung | <i>Brugmansia suaveolens</i> (Humb. & Bonpl. ex Willd.) Bercht. & J.Presl | Solanaceae     | Leaf, flower        |

|                     |                           |   |               |                           |
|---------------------|---------------------------|---|---------------|---------------------------|
| Binho/Roondola      | Binahong                  | <i>Anredera cordifolia</i> (Ten.) Steenis           | Basellaceae   | Leaves                    |
| Bue                 | Kacang Panjang            | <i>Vigna unguiculata</i> (L.) Walp.                 | Fabaceae      | Leaves                    |
| Bue tanah           | Kacang tanah              | <i>Arachis hypogaea</i> L.                          | Fabaceae      | Seeds                     |
| Bumbu jo            | Daun jinten               | <i>Coleus amboinicus</i> Lour.                      | Lamiaceae     | Leaves                    |
| Bunga anting        | Pacar air                 | <i>Impatiens balsamina</i> L.                       | Balsaminaceae | Leaf, flower              |
| Buri                | Bengkoang                 | <i>Pachyrhizus erosus</i> (L.) Urb.                 | Fabaceae      | Fruit, Seed               |
| Cengkeh             | Cengkeh                   | <i>Syzygium aromaticum</i> (L.) Merr. & L.M.Perry   | Myrtaceae     | Flower, Fruit, Seed       |
| Daun Dewa           | Daun Dewa                 | <i>Gynura divaricata</i> (L.) DC.                   | Asteraceae    | Leaves                    |
| Dimu                | Timun                     | <i>Cucumis sativus</i> L.                           | Cucurbitaceae | Fruit                     |
| Dobu                | Tebu                      |   | Poaceae       | Stem                      |
| Dongga cia          | Jeruk nipis               | <i>Citrus aurantiifolia</i> (Christm.) Swingle      | Rutaceae      | Fruit, leaf               |
| Dongga isu          | Jeruk peras               | <i>Citrus sp.</i>                                   | Rutaceae      | Fruit                     |
| Dongi mee           | Beras Ketan               | <i>Schleichera oleosa</i> (Lour.) Oken              | Sapindaceae   | Seeds                     |
| Duwet               | Jamblang                  | <i>Syzygium cumini</i> (L.) Skeels                  | Myrtaceae     | Bark, stem                |
| Enook               | Enau                      | <i>Arenga pinnata</i> (Wurmb) Merr.                 | Arecaceae     | Leaf                      |
| Ponda landu         | Maja                      | <i>Aegle marmelos</i> (L.) Corrêa                   | Rutaceae      | Leaf                      |
| Fari me'e           | beras hitam               | <i>Oryza sativa</i> L. var. <i>glutinosa</i>        | Poaceae       | Seeds                     |
| Fuu kore            | Biduri                    | <i>Calotropis gigantea</i> (L.) W.T.Aiton           | Apocynaceae   | Stem (sap), leaf          |
| Fu'u Wau            | Waru                      | <i>Hibiscus tiliaceus</i> L.                        | Malvaceae     | Root, Leaf, Bark          |
| Garoso jawa         | Sirsak                    | <i>Annona muricata</i> L.                           | Annonaceae    | Leaf, Fruit               |
| Garoso mbojo/doro   | Nona/srikaya              | <i>Annona squamosa</i> L.                           | Annonaceae    | Leaves                    |
| Gedi                | Gedi                      | <i>Abelmoschus manihot</i> (L.) Medik.              | Malvaceae     | Leaves                    |
| Golka/Golkar        | Rumput minjangan          | <i>Chromolaena odorata</i> (L.) R.M.King & H.Rob.   | Asteraceae    | Leaf, stem                |
| Hiwa bongi/Farenaie | padi (beras)              | <i>Oryza sativa</i> L. var. <i>glutinosa</i>        | Poaceae       | seed, stem                |
| Humpa mbai          | Daun kentut               | <i>Paederia foetida</i> L.                          | Rubiaceae     | Leaf                      |
| Huni                | Kunyit                    | <i>Curcuma longa</i> L.                             | Zingiberaceae | Rhizome, stem, fruit skin |
| Jabu                | Sintrong                  | <i>Crassocephalum crepidioides</i> (Benth.) S.Moore | Asteraceae    | Leaves                    |
| Jago                | Jagung                    | <i>Zea mays</i> L.                                  | Poaceae       | Bii                       |
| Jambu air           | Jambu air                 | <i>Syzygium aqueum</i> (Burm.fil.) Alston           | Myrtaceae     | Leaf                      |
| Jambu batu          | Jambu batu                | <i>Psidium guajava</i> L.                           | Myrtaceae     | Leaves                    |
| Jambu sempodo       | Jambu mede / Jambu monyet | <i>Anacardium occidentale</i> L.                    | Anacardiaceae | Leaf, Fruit, Bark         |
| Jampaka             | Cempaka                   | <i>Magnolia champaca</i> (L.) Baill. ex Pierre      | Magnoliaceae  | Leaf, Fruit bark, flower  |
| Jati                | Jati                      | <i>Tectona grandis</i> L.f.                         | Lamiaceae     | Bark, leaf                |
| Kabisa              | semanggi                  | <i>Oxalis corniculata</i> L.                        | Oxalidaceae   | Leaf, stem, root          |
| Kacika ngao         | Putri malu                | <i>Mimosa pudica</i> L.                             | Fabaceae      | Stem, leaf                |
| Ka'dara / Kelici    | Kebiul                    | <i>Caesalpinia bonduc</i> (L.) Roxb.                | Fabaceae      | Fruit                     |
| Kadondo             | Kedondong pagar           | <i>Spondias pinnata</i> (L.fil.) Kurz               | Anacardiaceae | Leaf, Stem bark, Fruit    |

|                          |   |  |                |                            |
|--------------------------|---|--|----------------|----------------------------|
| Kahawa                   | Kopi  | <i>Coffea arabica</i> L.   | Rubiaceae      | Seeds<br>(Powder)          |
| Kajarasa                 | Bayam duri                                    | <i>Amaranthus spinosus</i> L.  | Amaranthaceae  | Root, Leaf,<br>Flower      |
| Kakapi                   | Ketepeng cina                                 | <i>Senna alata</i> (L.) Roxb.  | Fabaceae       | Leaf, Fruit                |
| Kaleli                   | Kemiri  | <i>Aleurites moluccana</i> (L.) Willd.   | Euphorbiaceae  | Seeds, stem<br>bark        |
| Kalkapi                  | Senna   | <i>Senna alexandrina</i> Mill.   | Fabaceae       | Leaf, Fruit                |
| Kalo                     | Pisang  | <i>Musa × paradisiaca</i> L.   | Musaceae       | Root, stem,<br>flower      |
| Kalo goa                 | Pisang batu                                   | <i>Musa balbisiana</i> Colla   | Musaceae       | Stem                       |
| Kambesi                  | Katu  | <i>Sauropus androgynus</i> (L.) Merr.  | Phyllanthaceae | Leaves                     |
| Kampuja                  | Bangle  | <i>Zingiber cassumunar</i> Roxb.   | Zingiberaceae  | Rhizome,<br>Bark           |
| Kamunti /<br>Tama kunci  | Temu kunci                                    | <i>Boesenbergia rotunda</i> (L.) Mansf.  | Zingiberaceae  | Rhizome                    |
| Kananga                  | Kenanga                                       | <i>Cananga odorata</i> (Lam.) Hook.f. &<br>Thomson   | Annonaceae     | Leaf, Bark,<br>flower      |
| Kandui kerehe            | Terong duri /<br>Terong pari/ Terong<br>tomat | <i>Solanum carolinense</i> L.  | Solanaceae     | Fruit, Seed                |
| Kandui maju              | Rimbang                                       | <i>Solanum torvum</i> Sw.  | Solanaceae     | Fruit                      |
| Kangkung                 | Kangkung                                      | <i>Ipomoea aquatica</i> Forssk.  | Convolvulaceae | Leaves                     |
| Kanturu                  | Terong pipit                                  | <i>Solanum torvum</i> Sw.  | Solanaceae     | Fruit                      |
| Kapala                   | Pala  | <i>Myristica fragrans</i> Houtt.   | Myristicaceae  | Seeds                      |
| Kapas                    | Kapas   | <i>Gossypium herbaceum</i> L.  | Malvaceae      | Leaves                     |
| Karuhu                   | Paku sarang                                   | <i>Asplenium nidus</i> L.  | Polypodiaceae  | Root                       |
| Katipu                   | Putat   | <i>Planchonia valida</i> (Blume) Blume   | Lecythidaceae  | Bark                       |
| Katobo                   | Ciplukan                                      | <i>Physalis peruviana</i> L.   | Solanaceae     | Root, leaf,<br>stem, fruit |
| Kayu mani                | Kayu manis                                    | <i>Cinnamomum burmanni</i> (Nees &<br>T.Nees) Blume  | Lauraceae      | Stem bark                  |
| Keci beling              | Kejibeling                                    | <i>Sericocalyx crispus</i> (L.) Bremek.  | Acanthaceae    | Leaves                     |
| Kenop                    | Kenop   | <i>Gompherna globosa</i> L.  | Amaranthaceae  | Flower                     |
| Ketumbar                 | Ketumbar                                      | <i>Coriandrum sativum</i> L.   | Apiaceae       | Seed, leaf                 |
| Kinca / Kawi             | Kawista                                       | <i>Limonia acidissima</i> L.   | Rutaceae       | Leaf, fruit                |
| Korpa'i doro             | Belustru                                      | <i>Luffa acutangula</i> (L.) Roxb.   | Cucurbitaceae  | Fruit, leaf                |
| Kumis kucing             | Kumis kucing                                  | <i>Orthosiphon stamineus</i> Benth.  | Lamiaceae      | Leaf, flower               |
| Lau                      | Lengkuas/Laos                                 | <i>Alpinia galanga</i> (L.) Willd.   | Zingiberaceae  | Rhizome                    |
| Lempuyang                | Lempuyang                                     | <i>Zingiber amaricans</i> / <i>Zingiber<br/>aromaticum</i> Val. / <i>Zingiber<br/>zerumbet</i> | Zingiberaceae  | Rhizome                    |
| Lera sahe                | Tapak liman                                   | <i>Elephantopus scaber</i> L.  | Asteraceae     | Leaf                       |
| Lere                     | Tapak kuda                                    | <i>Pes caprae</i>  | Convolvulaceae | Seeds                      |
| Lidah buaya              | Lidah buaya                                   | <i>Aloe vera</i> (L.) Burm.f.  | Asphodelaceae  | Leaves                     |
| Limbi                    | Belimbing                                     | <i>Averrhoa carambola</i> L.   | Oxalidaceae    | Fruit, Leaf                |
| Loa / Ketimus            | Tenggulun                                     | <i>Protium javanicum</i> Burm.fil.   | Burseraceae    | Leaf, Bark                 |
| Maewa/Roo<br>cena/Kancia | Pegagan                                       | <i>Centella asiatica</i> (L.) Urb.   | Apiaceae       | Leaf                       |
| Mahuni                   | Mahoni  | <i>Swietenia mahagoni</i> (L.) Jacq.   | Meliaceae      | Seed, Bark                 |
| Mangge                   | Asam Jawa                                     | <i>Tamarindus indica</i> L.  | Leguminosae    | Fruit, Bark                |
| Manggis                  | Manggis                                       | <i>Garcinia mangostana</i> L.  | Cluciaceae     | Fruit                      |
| Mbodo                    | Boroco  | <i>Celosia argentea</i> L.   | Amaranthaceae  | Leaves                     |
| Melati                   | Melati  | <i>Jasminum sambac</i> (L.) Aiton  | Oleaceae       | Leaf, flower,<br>root      |

|               |                               |   |                |                            |
|---------------|-------------------------------|---|----------------|----------------------------|
| Mila          | Nilam                         | <i>Pogostemon cablin</i> (Blanco) Benth.          | Lamiaceae      | Stem                       |
| Monggo        | Salam                         | <i>Syzygium polyanthum</i> (Wight) Walp.          | Myrtaceae      | Leaves                     |
| Musi          | Adas                          | <i>Foeniculum vulgare</i> Mill.                   | Apiaceae       | Root, Flower, Seed         |
| Mutu/Kanola   | Patikan kebo                  | <i>Euphorbia hirta</i> L.                         | Euphorbiaceae  | Leaves, stem (sap)         |
| Na'a          | Ara                           | <i>Ficus carica</i> L.                            | Moraceae       | Skin                       |
| Nahi          | Sirih                         | <i>Piper betle</i> L.                             | Piperaceae     | Leaf, Fruit                |
| Nangga        | Nangka                        | <i>Artocarpus heterophyllus</i> Lam.              | Moraceae       | Stem bark, Fruit, leaf     |
| Ncuna         | Bawang putih kecil            | <i>Allium sativum</i> L.                          | Amaryllidaceae | Tubers, tuber skin, leaves |
| Nenas         | Nanas                         | <i>Ananas comosus</i> (L.) Merr.                  | Bromeliaceae   | Leaves                     |
| Nevo          | Pariparoba                    | <i>Piper umbellatum</i> L.                        | Piperaceae     | Leaves                     |
| Nimba         | Mimba                         | <i>Azadirachta indica</i> A.Juss.                 | Meliaceae      | Leaves                     |
| Ni'u          | Kelapa                        | <i>Cocos nucifera</i> L.                          | Arecaceae      | Root, Fruit                |
| Nonu          | Mengkudu                      | <i>Morinda citrifolia</i> L.                      | Rubiaceae      | Leaf, fruit                |
| Ntonu         | Kunyit putih                  | <i>Curcuma zedoaria</i> (Christm.) Roscoe         | Zingiberaceae  | Rhizome                    |
| O'o rangge    | Bambu                         | <i>Bambusa</i> sp.                                | Poaceae        | Flower                     |
| Panca         | Pacar kuku / daun inai        | <i>Lawsonia inermis</i> L.                        | Lythraceae     | Leaf, Flower               |
| Pandan wangi  | Pandan wangi                  | <i>Pandanus amaryllifolius</i> Roxb.              | Pandanaceae    | Leaf                       |
| Panja         | Pepaya                        | <i>Carica papaya</i> L.                           | Caricaceae     | Leaf, root, fruit, sap     |
| Paramau       | Sidaguri                      | <i>Sida rhombifolia</i> L.                        | Malvaceae      | Leaves                     |
| Parongge      | Kelor                         | <i>Moringa oleifera</i> Lam.                      | Moringaceae    | Leaf, Root, Stem           |
| Parongge keta | Kelor ungu                    | <i>Moringa oleifera</i> Lam.                      | Moringaceae    | Leaf, Skin                 |
| Pasak bumi    | Pasak bumi                    | <i>Eurycoma longifolia</i> Jack                   | Simaroubaceae  | Leaves                     |
| Pataha kolo   | Kemangi                       | <i>Ocimum basilicum</i> L.                        | Lamiaceae      | Seeds                      |
| Patei buah    | Petai cina                    | <i>Leucaena leucocephala</i> (Lam.) de Wit        | Fabaceae       | Leaf, seed                 |
| Pelawu        | Turi                          | <i>Sesbania grandiflora</i> (L.) Poir.            | Fabaceae       | Leaf, stem bark            |
| Peria         | Pare hutan                    | <i>Momordica balsamina</i> L.                     | Cucurbitaceae  | Leaf, Fruit                |
| Petah doro    | Kemangi gunung/ Kemangi hutan | <i>Ocimum</i> sp.                                 | Lamiaceae      | Leaf, seed                 |
| Petaha mpori  | Serai                         | <i>Cymbopogon citratus</i> (DC.) Stapf            | Poaceae        | Stem, seed                 |
| Piklawa       | Puring                        | <i>Codiaeum variegatum</i> (L.) Rumph. ex A.Juss. | Euphorbiaceae  | Stem bark                  |
| Ponda ndali   | Labu air                      | <i>Lagenaria siceraria</i> (Molina) Standl.       | Cucurbitaceae  | Leaf, Fruit                |
| Ponda wila    | Majapahit                     | <i>Crescentia cujete</i> L.                       | Bignoniaceae   | Root, Fruit                |
| Porang/kamaja | Iles-iles                     | <i>Amorphophallus muelleri</i> Blume              | Araceae        | Stem                       |
| Pukul empat   | Pukul empat                   | <i>Mirabilis jalapa</i> L.                        | Nyctaginaceae  | Leaf                       |
| Puli lawa     | Lawang                        | <i>Cinnamomum culilawan</i> (L.) Kosterm.         | Lauraceae      | Bark                       |
| Rangga        | Bidara                        | <i>Ziziphus mauritiana</i> Lam.                   | Rhamnaceae     | Leaf, Stem bark            |
| Rea           | Jahe                          | <i>Zingiber officinale</i> Roscoe                 | Zingiberaceae  | Rhizome                    |
| Rida          | Pulai                         | <i>Alstonia scholaris</i> (L.) R.Br.              | Apocynaceae    | Root, Leaf, Bark           |

|                       |                              |   |                 |                                       |
|-----------------------|------------------------------|---|-----------------|---------------------------------------|
| Rima ponda            | Labu kuning                  | <i>Cucurbita moschata</i> (Duchesne) Duchesne ex Poir.  | Cucurbitaceae   | Leaves                                |
| Ringi                 | Kapuk / Randu                | <i>Ceiba pentandra</i> (L.) Gaertn.                     | Malvaceae       | Leaf, stem bark                       |
| Rondu                 | Bungur                       | <i>Lagerstroemia speciosa</i> (L.) Martyn               | Lythraceae      | Leaves                                |
| Roo Bojo              | Singkong                     | <i>Manihot esculenta</i> Crantz                         | Euphorbiaceae   | Tuber, Leaf                           |
| Roo karaka            | Karaka                       | <i>Corynocarpus laevigatus</i> J.R.Forst. & G.Forst.    | Corynocarpaceae | Leaf                                  |
| Roo kolo              | Kluwih                       | <i>Artocarpus camansi</i> Blanco                        | Moraceae        | Red leaf                              |
| Roo Mangko            | Daun mangkok                 | <i>Polyscias scutellaria</i> (Burm.fil.) Fosberg        | Araliaceae      | Leaves                                |
| Roo papindi           | Cocor bebek                  | <i>Kalanchoe pinnata</i> (Lam.) Pers.                   | Crassulaceae    | Leaves                                |
| Roo sop               | Seledri                      | <i>Apium graveolens</i> L.                              | Apiaceae        | Leaf, Stem                            |
| Rope fo'o             | Mangga                       | <i>Mangifera indica</i> L.                              | Anacardiaceae   | Bark, Seed, Sap                       |
| Rope jermawa          | Kamboja                      | <i>Plumeria obtusa</i> L.                               | Apocynaceae     | Bark                                  |
| Rope rufe             | Bauhinia (daun kupu-kupu)    | <i>Bauhinia</i> sp.                                     | Fabaceae        | Bark                                  |
| Sa'biya               | Cabai jawa                   | <i>Piper retrofractum</i> Vahl                          | Piperaceae      | Fruit, bark, leaf                     |
| Saga                  | Saga                         | <i>Abrus precatorius</i> L.                             | Fabaceae        | Leaves and Seeds                      |
| Saha mpida            | Cabe rawit                   | <i>Capsicum frutescens</i> L.                           | Solanaceae      | Leaf, Fruit                           |
| Sahajawa/Isi ngguru   | Merica                       | <i>Piper nigrum</i> L.                                  | Piperaceae      | Fruit, seed, leaf                     |
| Sambi                 | Kesambi                      | <i>Schleichera oleosa</i> (Lour.) Oken                  | Sapindaceae     | Bark, seeds, leaves, stem             |
| Sampuri wawi          | Sambiloto                    | <i>Andrographis paniculata</i> (Burm.fil.) Nees         | Acanthaceae     | Leaves                                |
| Sandanawa             | Kol Banda                    | <i>Pisonia alba</i> Span.                               | Nyctaginaceae   | Leaves                                |
| Sangari               | Ajang kelicung               | <i>Diospyros macrophylla</i> Blume                      | Ebenaceae       | Leaves                                |
| Sarume                | Cermai                       | <i>Phyllanthus acidus</i> (L.) Skeels                   | Phyllanthaceae  | Leaf, fruit                           |
| Sawo                  | Sawo                         | <i>Manilkara zapota</i> (L.) P.Royen                    | Sapotaceae      | Fruit                                 |
| Sirimangge/m aramuncu | Meniran                      | <i>Phyllanthus niruri</i> L.                            | Phyllanthaceae  | Leaf, stem, root, bark                |
| Sisi                  | Rumput                       | <i>Cyperus rotundus</i> L.                              | Cyperaceae      | Seeds                                 |
| Soka                  | Krokot                       | <i>Portulaca olearacea</i>                              | Portulacaceae   | Leaf, stem, root                      |
| Soku                  | Kencur                       | <i>Kaempferia galanga</i> L.                            | Zingiberaceae   | Rhizome                               |
| Songga                | Bidara laut                  | <i>Strychnos ligustrina</i> Blume                       | Loganiaceae     | Stem bark, Fruit                      |
| Srigi                 | Jarak merah                  | <i>Jatropha gossypifolia</i> L.                         | Euphorbiaceae   | Leaves                                |
| Supa                  | Secang                       | <i>Biancaea sappan</i> (L.) Tod.                        | Fabaceae        | Stem                                  |
| Suruhan               | Tumpang air/sirih cina       | <i>Peperomia pellucida</i> (L.) Kunth                   | Piperaceae      | Leaves                                |
| Tai janga             | Bunga Tahi Ayam / tembelekan | <i>Tagetes erecta</i> L.                                | Asteraceae      | Flower                                |
| Talima                | Delima                       | <i>Punica granatum</i> L.                               | Punicaceae      | Fruit, Bark<br>Fruit, stem bark, seed |
| Tamba                 | Brotowali                    | <i>Tinospora crispa</i> (L.) Miers ex Hook.f. & Thomson | Menispermaceae  | Leaf, stem                            |
| Tambaku               | Tembakau                     | <i>Nicotiana tabacum</i> L.                             | Solanaceae      | Leaves                                |

|                     |                            |   |                              |                     |
|---------------------|----------------------------|---|------------------------------|---------------------|
| Tamulawa            | Temulawak                  | <i>Curcuma xanthorrhiza</i> Roxb.             | Zingiberaceae                | Rhizome, fruit skin |
| Tari'i ingao        | Bandotan                   | <i>Ageratum conyzoides</i> L.                 | Asteraceae                   | Root, Leaf          |
| Tatanga/Roo katanga | Jarak pagar                | <i>Jatropha curcas</i> L.                     | Euphorbiaceae                | Leaf, stem (sap)    |
| Tawoa               | Temu giring                | <i>Curcuma heyneana</i> Valetton & Zipj.      | Zingiberaceae                | Rhizome, fruit peel |
| Tempuyung           | Tempuyung                  | <i>Sonchus arvensis</i> L.                    | Asteraceae                   | Leaves              |
| Tere                | Sukun                      | <i>Artocarpus altilis</i> (Parkinson) Fosberg | Moraceae                     | Leaves              |
| Terong ungu         | Terong ungu                | <i>Solanum melongena</i> L.                   | Solanaceae                   | Fruit               |
| Tomat               | Tomat                      | <i>Lycopersicon esculentum</i> Mill.          | Solanaceae                   | Fruit               |
| Tula                | Belum dapat diidentifikasi | <i>Alstonia spectabilis</i> R.Br.             | Apocynaceae                  | Stem (sap), Bark    |
| Ua karici           | Pinang                     | <i>Areca catechu</i> L.                       | Arecaceae                    | Root, Fruit, seed   |
| Ubamia              | Okra                       | <i>Abelmoschus esculentus</i> (L.) Moench     | Malvaceae                    | Fruit               |
| Uwi keta            | Ubi jalar                  | <i>Ipomoea batatas</i> (L.) Lam.              | Convolvulaceae               | Leaf                |
| Wako                | Bakau                      | <i>Rhizophora racemosa</i> G.Mey.             | Rhizophoraceae               | Skin                |
| Wosu                | Awar-awar                  | <i>Ficus septica</i> Burm.fil.                | Moraceae                     | Leaves              |
| Wunta kalupa        | Kembang merak              | <i>Caesalpinia pulcherrima</i> (L.) Sw.       | Caesalpinaceae (Leguminosae) | Flower              |

## Discussion

The ethnobotanical investigation of the Donggo Ele tribe in Wawo District reveals a community deeply connected to its natural environment, possessing a rich and detailed understanding of medicinal plants. The documentation of 171 medicinal plant species from 62 families for treating 67 different ailments underscores the biodiversity of the region and the extensive traditional ecological knowledge held by the community. This knowledge persists despite the availability of modern health facilities, highlighting the cultural importance and continued reliance on traditional medicine for primary healthcare. The region's highland geography, fertile land, and abundant biodiversity create ideal conditions for medicinal plant cultivation, enabling the Donggo Ele people to maintain their agricultural lifestyle while sustaining a sophisticated system of plant-based healthcare (Bunyamin 2018).

The demographic composition of informants reflects the community's occupational and gender dynamics. The predominance of female informants (67.14%) reflects both the timing of data collection during the corn planting season and the role of women as primary custodians of medicinal knowledge within the household. This finding is consistent with other ethnobotanical studies that have identified women as the primary holders of traditional healthcare knowledge. The age distribution, with the largest group aged 36-45 years, indicates that middle-aged individuals serve as knowledge repositories, actively engaged in both household management and agricultural work. The occupational profile, dominated by housewives (42.86%) and farmers (34.29%), underscores the agricultural foundation of the community and the integration of medicinal plant knowledge into daily household practices (BPS 2021).

The unique cultural identity of the Donggo Ele, or "mountain people," has been shaped by a history of resistance to external pressures, leading them to inhabit mountainous regions to preserve their ancestral beliefs, such as Marafu (animism), even after adopting Islam (Inayati 2016). This cultural resilience is also reflected in their language, Nggahi Sambori, which maintains a distinct identity from the broader Bima language (Yusra *et al.* 2016). This strong cultural identity likely plays a crucial role in the preservation and transmission of their traditional ethnobotanical knowledge.

The quantitative analysis of ethnobotanical data provides a deeper understanding of the Donggo Ele's medicinal plant practices. The high Relative Frequency of Citation (RFC) for *Curcuma longa* L. (turmeric) and *Zingiber officinale* (ginger) suggests their cultural importance and widespread use, likely due to their effectiveness, accessibility, and multifunctional role in both medicine and cuisine. The prominence of the Zingiberaceae and Fabaceae families, as indicated by the highest Family Importance Values (FIV of 90.476% and 95.238% respectively), is particularly significant. As noted by Napagoda *et al.* (2018), a high FIV indicates that a plant family is well-known and frequently utilized by a community. These families are well-

known for their medicinal properties across various cultures, and their prevalence in the Donggo Ele's traditional medicine system highlights potential areas for further phytochemical and pharmacological research.

The Species Use Value (SUV) and Fidelity Level (FL) indices further illuminate the specificity and perceived efficacy of medicinal plants. Plants such as *Abrus precatorius* and *Gomphrena globosa*, with high SUVs of 4.50 and 4.00 respectively, demonstrate versatility in treating multiple ailments, making them particularly valuable to the community. The perfect Fidelity Level (FL) of *Syzygium aqueum* (100%) for gastrointestinal disorders is a strong indicator of its efficacy for this specific purpose. As highlighted by Khan *et al.* (2014) and Jadid *et al.* (2020), a high FL value points to a strong consensus among informants about a plant's use for a specific ailment, suggesting high potential for pharmacological activity. The FL data reveal a gradient of community recognition, from *Curcuma longa* L. (22.95%) for wound treatment to *Syzygium aqueum* (100%) for gastrointestinal issues, reflecting varying degrees of cultural reliance on specific plants for particular ailments.

The practical aspects of traditional healing reveal sophisticated knowledge systems adapted to local conditions. The preference for leaves as the most utilized plant part (PPV 38.082%), followed by fruits (14.75%), reflects both their accessibility and the concentration of active compounds. The preparation methods, primarily pounding and boiling (34%), are simple and effective, requiring minimal technology, a characteristic feature of sustainable traditional knowledge systems. The predominance of oral administration (58.3%) suggests a belief in systemic effects of these remedies, while the diversity of application methods (including gargling, spraying, soaking, and topical application) demonstrates the community's nuanced understanding of plant properties and therapeutic applications.

The multifunctional role of medicinal plants in the Donggo Ele community extends beyond healthcare. Plants from the Fabaceae family, such as *Arachis hypogaea* and *Vigna unguiculata*, serve simultaneously as medicinal plants and vegetables, while Zingiberaceae species function as both medicine and kitchen spices. This integration of medicinal plants into food systems enhances their accessibility and cultural significance, ensuring their continued cultivation and use across generations. The treatment of 67 different ailments, ranging from skin conditions and muscle injuries to chronic diseases such as diabetes and hypertension, demonstrates the breadth of ethnobotanical knowledge and the reliance on plant-based remedies for comprehensive healthcare.

However, this invaluable traditional knowledge faces significant threats from modernization and disrupted intergenerational transmission. The availability of modern healthcare facilities, while beneficial, has contributed to changing perceptions among younger generations regarding traditional practices. Without concerted efforts for preservation and documentation, this biocultural heritage is at risk of being lost. The study underscores the critical need for community-based conservation initiatives, sustainable utilization strategies, and targeted efforts to transmit this knowledge to younger generations, ensuring that the Donggo Ele's ethnobotanical legacy continues to contribute to both cultural heritage preservation and potential pharmaceutical research. The high-consensus plants identified through the FL and SUV analyses, such as *Syzygium aqueum*, *Abrus precatorius*, and *Gomphrena globosa*, represent prime candidates for further pharmacological investigation, which could validate their traditional uses and lead to the development of new therapeutic agents.

## Conclusion

The practice of blessings plays an important role in the health care of the investigated communities, even in the...

## Declarations

**List of abbreviations:** RFC - Relative Frequency of Citation; SUV - Species Use Value; FIV - Family Importance Value; FL - Fidelity Level; PPV - Plant Part Value; NTB - Nusa Tenggara

**Ethics approval and consent to participate:** Before the interviews, informed consent was obtained from each participant. The objectives of the study were clearly explained to all 70 informants, including traditional healers (Sando) and village elders, who were selected through purposive and snowball sampling.

**Consent for publication:** Not applicable

**Availability of data and materials:** The plants were collected, dried, identified, and mounted on herbarium sheets. Plant identification was conducted through field surveys and taxonomic references, including the Indonesian Herbal Pharmacopoeia, Taxonomy of Medicinal Plants, Wild Plants with Medicinal Properties, Atlas of Indonesian Medicinal Plants, and the Dictionary of Plant Names in the Lesser Sunda Islands. Specimens requiring further identification were sent to the Jakarta Herbarium Universitas Nasional, Jakarta, Indonesia. All data obtained from informants during the study are included in the manuscript.

**Competing interests:** The authors declare that they have no competing interests.

**Funding:** Financial support for this research was provided through a grant from the Ministry of Research and Technology/National Research and Innovation Agency of the Republic of Indonesia.

**Author contributions:** N.S. conceptualized the study, collected and analyzed the data, and wrote the original draft. H.N.A. participated in data collection and analysis, created visualizations, and contributed to the final version of the text. V.D.P. participated in methodology development, data collection, validation, and contributed to the final version of the text. E.S. conceptualized and supervised the study, acquired funding, and wrote the final version of the text.

## Acknowledgements

The authors would like to thank Universitas Nasional, Jakarta, Indonesia and the community of the Donggo Ele Tribe, Wawo District, Bima Regency, West Nusa Tenggara Province.

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